

Percentages of verifications for third day in advance. Number of predictions made, temperature, 4. Percentage of verification, 100.

### WIND SIGNALS FOR MAY, 1891.

Statement showing percentages of justifications of wind signals for the month of May, 1891.

**Wind signals**—(Ordered by Assistant Professor H. A. Hazen.)—Total number of signals ordered, 76; justified as to velocity, wholly, 60, partly, 1; justified as to direction, 73. All of the signals ordered were cautionary; 36 signals were ordered for easterly winds, of which 33 were justified, and 40 were ordered for westerly winds, all of which were justified. Percentage of justifications, 73.0.

No cold-wave signals were ordered, and no temperature-fall warnings were issued during the month.

Percentages of verifications of weather and temperature signals reported by directors of the various State Weather Services for May, 1891.

States.	Weather.	Temperature.	States.	Weather.	Temperature.
Illinois .....	84	79	New Jersey .....	79	90
Iowa .....	89	92	New York .....	86	81
Michigan .....	88	88	North and South Dakota .....	88	77
Minnesota .....	93	83	Ohio .....	89	89
Missouri .....	86	89	South Carolina .....	80	88
Nebraska .....	83	91			

[Verifications made by Assistant Professor C. F. Marvin, assisted by Mr. H. E. Williams, chief clerk of the Forecast Division.]

### FORECASTS FOR 24 HOURS IN ADVANCE.

The forecasts for districts east of the Rocky Mountains for May, 1891, were made by Assistant Professor H. A. Hazen, Signal Service, and those for the Pacific coast districts were

made at San Francisco, Cal., by 2d Lieutenant John P. Finley, 19th Infantry.

### Percentages of forecasts verified, May, 1891.

States.	Weather.	Temperature.	Weather and temperature combined.	States.	Weather.	Temperature.	Weather and temperature combined.
Maine .....	88.1	67.1	79.7	Arkansas .....	84.2	80.6	82.8
New Hampshire .....	82.9	72.9	78.9	Tennessee .....	90.6	79.0	86.0
Vermont .....	87.4	77.7	83.5	Kentucky .....	93.5	74.2	85.8
Massachusetts .....	91.6	80.6	87.2	Ohio .....	89.2	71.3	79.6
Rhode Island .....	91.0	84.8	88.5	West Virginia .....	86.1	64.5	77.5
Connecticut .....	90.3	81.9	87.0	Indiana .....	91.0	78.7	86.1
Eastern New York .....	88.4	75.5	83.2	Illinois .....	90.6	86.1	88.8
Western New York .....	84.5	67.1	77.5	Lower Michigan .....	92.6	74.8	85.5
Eastern Pennsylvania .....	87.4	78.7	83.9	Upper Michigan .....	93.2	77.4	86.0
Western Pennsylvania .....	80.3	71.3	76.7	Wisconsin .....	89.7	75.5	84.0
New Jersey .....	81.4	76.8	79.5	Minnesota .....	91.6	82.3	87.9
Delaware .....	86.1	81.3	84.2	Iowa .....	91.0	79.0	86.2
Maryland .....	86.1	88.1	86.9	Kansas .....	84.8	80.0	82.9
District of Columbia .....	80.3	87.1	83.0	Nebraska .....	89.0	84.5	87.2
Virginia .....	89.0	77.7	84.0	Missouri .....	89.4	89.7	89.5
North Carolina .....	91.0	80.6	86.5	Colorado .....	86.1	72.9	80.8
South Carolina .....	90.3	82.3	87.1	North Dakota .....	89.4	86.8	88.3
Georgia .....	91.0	90.0	90.6	South Dakota .....	91.0	83.5	88.0
Eastern Florida .....	91.6	94.5	92.8	Southern California .....	95.8	79.0	89.1
Western Florida .....	95.8	95.8	95.4	Northern California .....	90.3	80.3	86.3
Alabama .....	92.6	85.5	89.7	Oregon .....	88.1	68.1	80.1
Mississippi .....	92.3	84.2	89.0	Washington .....	85.5	72.6	80.3
Louisiana .....	90.6	88.7	89.9				
Texas .....	89.7	80.6	86.1	Monthly percentage .....	88.0	80.3	85.4

In determining the monthly percentage of weather and temperature combined, the Pacific coast states are not included. The forecasts of temperature in districts east of the Rocky Mountains for May, 1891, were made with reference to the maximum temperature alone; that is, a prediction of warmer or cooler indicated that the maximum temperature of the day designated would be higher or lower than the maximum of the previous day. The monthly percentage of weather and temperature combined is determined by multiplying the percentage of weather by 6, and the percentage of temperature by 4, and dividing their sum by 10.

## STATE WEATHER SERVICES.

[Temperature in degrees Fahrenheit; precipitation, including melted snow, in inches and hundredths.]

The following extracts and summaries are republished from reports for May, 1891, of the directors of the various state weather services:

### ALABAMA.

Cool weather and drouth injured vegetation.

**Temperature.**—The mean was 5.0 below the normal; maximum, 99, at Wiggins, 25th; minimum, 36, at Chepultepec, 7th; greatest monthly range, 54, at Brewerton and Opelika; least monthly range, 22, at Goodwater.

**Precipitation.**—Greatest monthly, 4.09, at Double Springs; least monthly, 0.00, at Chepultepec.

**Wind.**—Prevailing direction, north.—Prof. P. H. Mell, Auburn, director; J. M. Quarles, Private, Signal Corps, assistant.

### ARKANSAS.

The month was much colder and drier than usual.

**Temperature.**—The mean was 2.4 below the normal; maximum, 97, at Lead Hill, 30th; minimum, 36, at Fayetteville, 7th; greatest monthly range, 59, at Lead Hill; least monthly range, 20, at Winslow.

**Precipitation.**—The average was 1.17 below the normal; greatest monthly, 5.37, at Hot Springs; least monthly, 0.55, at Devall Bluff.

**Wind.**—Prevailing direction, south.—M. F. Locke, Commissioner of Agriculture, Little Rock, director; F. H. Clarke, Sergeant, Signal Corps, assistant.

### COLORADO.

**Temperature.**—Maximum, 93, at Lamar, 8th; minimum, 1, at Breckenridge, 11th; greatest monthly range, 73, at Breckenridge; least monthly range, 40, at Como and Leadville.

**Precipitation.**—The average was considerably above the normal; greatest monthly, 8.67, at Brush; least monthly, 0.49, at Garnet.—W. S. Miller, Sergeant, Signal Corps, Denver, assistant.

### ILLINOIS.

**Temperature.**—The mean was 3.1 below the normal of the last 13 years; maximum, 93, at McLeansborough, 31st; minimum, 28, at Oswego, 17th, at Philo, 7th, and at Pontiac, 6th.

**Precipitation.**—The average was 2.07 below the normal of the last 13 years; greatest monthly, 4.74, at Rushville; least monthly, 0.47, at Pontiac.

**Wind.**—Prevailing direction, northeast.—John Craig, Sergeant, Signal Corps, Springfield, in charge.

### INDIANA.

**Temperature.**—Maximum, 90, at Rockville, 30th; minimum, 25, at Point Isabel, 5th and 7th; greatest monthly range, 63, at Point Isabel; least monthly range, 40, at Huntingburgh.

**Precipitation.**—Greatest monthly, 2.79, at Valparaiso; least monthly, 0.80, at Huntingburgh.

**Wind.**—Prevailing direction, northeast.—Prof. H. A. Huston, La Fayette, director; C. F. R. Wappenhans, Sergeant, Signal Corps, assistant.

### IOWA WEATHER AND CROP SERVICE.

**Temperature.**—The mean was about 2.0 below the normal; maximum, 94, at Glenwood, 14th; minimum, 21, at Indianola, 6th; greatest monthly range, 62, at Atlantic; least monthly range, 39, at Independence.

**Precipitation.**—The average was about 1.25 below the normal; greatest monthly, 7.10, at Mount Vernon; least monthly, 1.46, at Bancroft.

**Wind.**—Prevailing direction, northeast.—J. R. Sage, Des Moines, director; G. M. Chappel, Observer, Signal Service, assistant.

### KANSAS.

**Temperature.**—The mean was 2.5 below the normal; maximum, 98, at Morton, 30th; minimum, 27, at Pleasant Dale, 11th; greatest monthly range, 66, at Eureka Ranch; least monthly range, 42, at Wallace.

**Precipitation.**—Greatest monthly, 10.25, at Kellogg; least monthly, 1.50, at Page City.

**Wind.**—Prevailing direction, south.—Prof. J. T. Lovewell, Topeka, director; T. B. Jennings, Sergeant, Signal Corps, assistant.

### KENTUCKY.

**Temperature.**—The mean was about 4.0 below the normal; maximum, 90, at Canton and Princeton, 31st; minimum, 29, at Caddo, 6th, and at Harrodsburgh, 7th; greatest monthly range, 59, at Princeton; least monthly range, 43, at Franklin.

**Precipitation.**—The average was about 2.00 below the normal; greatest monthly, 3.96, at Middlesborough; least monthly, 0.76, at Bowling Green.

**Wind.**—Prevailing direction, northeast.—Dr. E. A. Grant, Louisville, director; Frank Burke, Sergeant, Signal Corps, assistant.

## LOUISIANA.

*Temperature.*—The mean ranged over 3.0 below the normal in the northern portion, and over 5.0 in the southern portion of the state; maximum, 95, at Cheneyville, 5th, and at Mandeville, 25th and 26th; minimum, 38, at Winnborough, 7th; greatest monthly range, 54, at Winnborough; least monthly range, 21, at Port Eads.

*Precipitation.*—Greatest monthly, 3.21, at Amite City; least monthly, trace, at Marksville.

*Wind.*—Prevailing directions, northeast and south.—*George E. Hunt, Sergeant, Signal Corps, New Orleans, in charge.*

## MARYLAND.

*Temperature.*—Maximum, 91, at Cumberland, 10th; minimum, 36, at Barren Creek Springs, 6th; greatest monthly range, 50, at Barren Creek Springs and Cumberland; least monthly range, 33, at Gaithersburgh.

*Precipitation.*—Greatest monthly, 6.17, at Leonardtown; least monthly, 2.45, at Mount Saint Mary's.

*Wind.*—Prevailing direction, southwest.—*William B. Clark, Johns Hopkins University, director; Milton Whitney, Maryland Agricultural College, secretary and treasurer; C. F. Cronk, Sergeant, Signal Corps, in charge.*

## MICHIGAN.

*Temperature.*—The mean was 1.7 below the normal of the last 15 years; maximum, 89, at Benton Harbor, 18th; minimum, 17, at Evart, 5th, and at Gaylord, 17th; greatest monthly range, 68, at Hillman; least monthly range, 42, at Atlantic.

*Precipitation.*—The average was 2.05 below the normal of the last 15 years; greatest monthly, 3.60, at Kalamazoo; least monthly, trace, at Harbor Springs and Hillman.

*Wind.*—Prevailing direction, southwest.—*N. B. Conger, Sergeant, Signal Corps, Lansing, director.*

## MINNESOTA.

*Temperature.*—The mean was slightly in excess of the normal; maximum, 94, at Crookston, 7th; minimum, 15, at Leech Lake, 5th, and at Pokegama Falls, 6th; greatest monthly range, 75, at Crookston; least monthly range, 47, at Saint Charles.

*Precipitation.*—The average was about 2.00 below the normal; greatest monthly, 2.90, at Crookston; least monthly, 0.59, at Pokegama Falls.

*Wind.*—Prevailing direction, south.—*John Healy, Sergeant, Signal Corps, Minneapolis, in charge.*

## MISSISSIPPI.

*Temperature.*—The mean was 2.5 below the normal; maximum, 100, at Columbus, 23d; minimum, 38, at Louisville, 6th, at Aberdeen, 7th and 8th, and at Brookhaven, 8th; greatest monthly range, 58, at Louisville, Vaiden, and Aberdeen; least monthly range, 31, at West Point.

*Precipitation.*—The average was 2.35 below the normal; greatest monthly, 6.56, at Brookhaven; least monthly, trace, at Kosciusko.—*R. B. Fulton, Signal Corps, University, director.*

## MISSOURI.

*Temperature.*—The mean was about 3.0 below the normal; maximum, 97, at Protem, 30th; minimum, 28, at Adrian, 5th.

*Precipitation.*—The average was 0.50 above the normal; greatest monthly, 7.68, at Oregon (1); least monthly, 1.42, at Concordia.—*Levi Chubbuck, Secretary of State Board of Agriculture, Columbia, director; A. L. McRae, Sergeant, Signal Corps, assistant.*

## NEBRASKA.

The month was rather cooler than usual, with abundant rainfall along the southern line of the state, but very little in some parts farther north.

*Temperature.*—Maximum, 100, at Bassett and Long Pine; minimum, 24, at Hay Springs.

*Precipitation.*—Greatest monthly, 5.37, at Precept; least monthly, 0.41, at Sargent.—*Prof. Goodwin D. Swezey, Crete, director; G. A. Loveland, Sergeant, Signal Corps, assistant.*

## NEVADA.

The month was remarkable for the extensive and long continued rains accompanied by cool weather, especially during the latter part of the month.

*Temperature.*—Maximum, 95, at Downeyville, 2d; minimum, 21, at Eureka Ranch; greatest monthly range, 64, at Eureka Ranch; least monthly range, 36, at Humboldt.

*Precipitation.*—Greatest monthly, 3.96, at Ely; least monthly, 0.35, at Hot Springs.

*Wind.*—Prevailing direction, southwest.—*Prof. Charles W. Friend, Carson City, director; F. A. Carpenter, private, Signal Corps, assistant.*

## NEW ENGLAND METEOROLOGICAL SOCIETY.

*Temperature.*—The mean was 1.2 below the normal; maximum, 92, at Westborough, 11th; minimum, 22, at Ludlow, 6th, and at Monson, 7th; greatest monthly range, 66, at Lake Cochituate; least monthly range, 33, at Nantucket.

*Precipitation.*—The average was 1.35 below the normal; greatest monthly, 3.47, at Lunenburg; least monthly, 1.03, at Mansfield, Mass.

*Wind.*—Prevailing direction, southwest.—*Prof. William H. Niles, Boston, Mass., president; Prof. Winslow Upton, Providence, R. I., secretary; J. Warren Smith, Private, Signal Corps, assistant.*

## NEW JERSEY.

*Temperature.*—The mean was 0.2 below the normal; maximum, 93, at New Brunswick, 11th; minimum, 24, at Allaire, 6th; greatest monthly range, 64, at Lancelwood; least monthly range, 46, at Oceanic.

*Precipitation.*—The average was 0.77 below the normal; greatest monthly, 5.39, at Oceanic; least monthly, 1.78, at Mount Holly.

*Wind.*—Prevailing direction, southwest.—*E. W. McGann, Sergeant, Signal Corps, New Brunswick, in charge.*

## NEW YORK.

*Temperature.*—The mean was 2.4 below the normal; maximum, 90, at Middleburgh and Geneva, 10th; minimum, 19, at Plattsburgh Barracks, 5th; greatest monthly range, 67, at Plattsburgh Barracks; least monthly range, 44, at Fort Hamilton and Peekskill.

*Precipitation.*—Greatest monthly, 4.03, at Fort Wadsworth; least monthly, 0.32, at Addison.—*Prof. E. A. Fieries, Dean of the College of Civil Engineering, Cornell University, director; R. M. Hardinge, Private, Signal Corps, assistant.*

## NORTH CAROLINA.

The month was cold and wet, and very unfavorable for the growth of crops.

*Temperature.*—The mean was 3.1 below the normal of the last 20 years, and is the lowest mean for May since 1877; maximum, 95, at Chapel Hill, 10th and 11th; minimum, 23, at Bakersville, 7th; greatest monthly range, 65, at Franklin; least monthly range, 36, at Kitty Hawk.

*Precipitation.*—The average was 1.20 above the normal of the last 20 years; greatest monthly, 11.08, at Seven Pines; least monthly, 1.03, at Wilmington.

*Wind.*—Prevailing direction, south.—*Dr. Herbert B. Battle, Raleigh, director; C. F. von Herrmann, Sergeant, Signal Corps, assistant.*

## NORTH AND SOUTH DAKOTA.

*Temperature.*—The mean was about 2.0 above the normal; maximum, 102, at Clark, S. Dak., 29th; minimum, 17, at Fort Buford, N. Dak., 3d; greatest monthly range, 74, at Clark, S. Dak., and Napoleon, N. Dak.; least monthly range, 43, at De Smet, S. Dak.

*Precipitation.*—The average was 1.56 below the normal; greatest monthly, 3.35, at Clark, S. Dak.; least monthly, 0.38, at Forestburgh, S. Dak.

*Wind.*—Prevailing direction, south.—*S. W. Glenn, Sergeant, Signal Corps, Huron, S. Dak., in charge.*

## OHIO.

*Temperature.*—The mean was 2.0 below the normal; maximum, 93, at Portsmouth, 10th; minimum, 25, at Newcomerstown, 17th.

*Precipitation.*—The average was 1.82 below the normal; Hiram, Bangorville, New Alexandria, Weymouth, Garrettsville, and Orangeville report a trace of snowfall during the month.—*Prof. B. F. Thomas, Columbus, director; C. M. Strong, Sergeant, Signal Corps, secretary and assistant.*

## OREGON.

*Temperature.*—The mean was 0.7 above the normal; maximum, 97, at Weston, 25th; minimum, 16, at Silver Lake, 6th.

*Precipitation.*—The average was 0.23 above the normal; greatest monthly, 4.87, at Bandon; least monthly, 0.32, at The Dalles.

*Wind.*—Prevailing directions, north, west of the Cascades, and west to southwest east of them.—*Hon. H. E. Hayes, Master State Grange, Oswego, director; B. S. Pague, Sergeant, Signal Corps, assistant.*

## SOUTH CAROLINA.

*Temperature.*—Maximum, 100, at Columbia, 23d; minimum, 36, at Cheraw, 8th; greatest monthly range, 58, at Columbia; least monthly range, 32, at Port Royal.

*Precipitation.*—Greatest monthly, 6.31, at Batesburgh; least monthly, 1.85, at Statesburgh.

*Wind.*—Prevailing direction, northeast.—*A. P. Butler, Columbia, director, State Weather Service, and observer, Signal Service.*

## PENNSYLVANIA.

*Temperature.*—The mean was 2.5 below the normal; maximum, 93, at Carlisle and McConnellsburgh; minimum, 20, at Dyberry, 4th; greatest monthly range, 64, at Hollidaysburgh and Dyberry; least monthly range, 48, at Erie.

*Precipitation.*—The average was 1.25 below the normal; greatest monthly, 4.41, at Ligonier; least monthly, 0.31, at Blue Knob.

*Wind.*—Prevailing direction, northwest.—*Under direction of the Franklin Institute, Philadelphia; T. F. Townsend, observer, Signal Service, assistant.*

## TENNESSEE.

*Temperature.*—The mean was slightly below the normal; maximum, 92, at Sharp and Bolivar, 31st; minimum, 30, at Springdale, 7th; greatest monthly range, 60, at Springdale; least monthly range, 39, at McMinnville.

*Precipitation.*—The mean was about 2.50 below the normal, and was the smallest amount in the last 9 years; greatest monthly, 3.76, at Jacksboro; least monthly, 0.35, at Kingston Springs.

*Wind.*—Prevailing directions, north and northeast.—*J. D. Plunket, M. D., Nashville, director; H. C. Bate, Signal Corps, assistant.*

## TEXAS.

*Temperature.*—The mean was 2.0 below the normal; maximum, 97, at Rio Grande City, 29th; minimum, 42, at a number of stations; greatest monthly range, 52, at Childress; least monthly range, 20, at Corpus Christi.

**Precipitation.**—The average was generally deficient over the state, except over the Panhandle, where it was normal; greatest monthly, 6.77, at Menardville; least monthly, 0.08, at Luling.—*D. D. Bryan, Galveston, director; I. M. Cline, Sergeant, Signal Corps, assistant.*

### WISCONSIN.

**Temperature.**—The mean was 4.0 below the normal; maximum, 90, at Westfield, 9th; minimum, 15, at Hayward, 4th.

**Precipitation.**—The average was 2.50 below the normal; greatest monthly, 4.16, at Beloit; least monthly, trace, at Wausau.

**Wind.**—Prevailing directions, south and southwest.—*R. E. Kerkam, Milwaukee, Sergeant, Signal Corps, in charge.*

**Meteorological record of Army post surgeons, voluntary, and other co-operating observers, May, 1891.**

Stations.	Temperature. (Fahrenheit.)				Precip. in.	Stations.	Temperature. (Fahrenheit.)				Precip. in.
	Max.	Min.	Mean.	Max.			Min.	Mean.			
<b>Alabama.</b>						<b>Arizona—Cont'd.</b>					
Bermuda *†	90	45	68.6	1.30		Teviston	108	58	78.7	2.50	
Bessemer	90	40	68.0	0.73		Texas Hill	108	58	78.7	0.00	
Brewton †	87	43	70.4	2.75		Tip Top †	99	51	74.2	0.07	
Chickadee †	75	36	60.3	0.00		Tucson (1) †	99	51	75.5	0.22	
Childersburgh	94	46	74.0	1.42		Tucson (2) *	95	65	78.0	0.18	
Citronelle †	94	46	74.0	3.70		Walnut Grove	86	32	57.8	1.10	
Claiborne Landing	89	40	69.6	2.35		Whipple Barracks	86	32	57.8	0.27	
Columbiana †	89	40	69.6	0.57		Willcox*	97	49	72.2	0.57	
Cordova †	90	38	67.2	1.23		Wilgus	97	49	72.2	0.85	
Decatur (1) †	90	38	67.2	1.13		Woodruff	95	65	77.3	0.30	
Decatur (2) †	90	38	67.2	1.13		Yuma	95	65	77.3	0.00	
Double Springs †	90	44	68.6	4.09		<b>Arkansas.</b>					
Eufaula	94	47	74.4	2.17		Arkadelphia †	88	40	66.0	3.54	
Evergreen	90	42	72.3	3.53		Arkansas City †	88	40	66.0	2.17	
Fayette C. H.	88	56	71.3	0.80		Brinkley	88	40	66.0	1.31	
Florence	92	46	71.2	1.45		Camden †	85	44	66.8	3.30	
Fort Deposit	92	46	71.2	1.61		Conway	85	49	65.9	3.35	
Gadsden †	90	40	70.0	1.40		Dallas	88	39	65.1	3.63	
Goodwater	90	40	70.0	1.40		Dardanelle	88	40	66.0	0.41	
Greensborough †	88	48	71.8	2.02		Devall Bluff	93	39	67.8	0.55	
Jasper †	88	38	59.5	1.57		El Dorado	84	43	64.2	1.69	
Livingston (1) * †	93	45	68.0	2.24		Fayetteville * †	86	36	62.6	3.17	
Livingston (2) †	89	44	69.2	3.55		Forrest City †	91	42	68.3	1.59	
Lynn	95	45	69.4	0.58		Fulton †	91	42	68.3	3.01	
Marion	95	45	69.4	1.77		Helena (1) †	94	45	69.6	3.02	
Mountain Home	88	38	64.3	1.74		Helena (2) †	94	45	69.6	2.94	
Mount Willing	88	46	70.2	3.50		Hot Springs	90	39	65.4	5.37	
Mt. Vernon B'ks.	94	47	72.2	3.12		Lead Hill †	97	38	64.6	1.97	
Opelika	97	43	70.2	3.23		Lonoke	97	45	70.6	1.31	
Pine Apple	92	40	70.6	1.68		Malvern	88	48	68.2	2.85	
Selma (2) †	92	45	71.6	2.78		Monticello	90	42	69.4	3.70	
Sturdevant	92	45	71.6	2.31		Mount Nebo	82	44	65.6	3.74	
Talladega	92	45	71.6	2.17		Newport (1) †	93	43	69.2	1.02	
Talladega Falls	92	45	71.6	1.90		Newport (2) †	93	43	69.2	1.79	
Tuscaloosa	92	45	71.6	1.72		Osceola	89	45	66.9	2.46	
Tuscumbia (1) †	88	50	56.1	1.49		Ozone	84	43	66.8	4.82	
Tuscumbia (2) †	90	40	67.4	1.97		Paragould m	94	39	66.4	2.70	
Union Springs	86	46	64.8	2.52		Pine Bluff	92	42	69.7	3.88	
Uniontown †	90	46	72.4	2.61		Prescott k.	87	52	69.8	2.41	
Valley Head †	90	40	67.4	0.61		Rogers †	85	38	63.6	4.31	
Warrior †	90	40	67.4	2.06		Russellville †	93	43	67.4	3.80	
Wiggins †	99	44	72.4	2.57		Stuttgart	89	42	67.2	1.55	
<b>Alaska.</b>						89	41	67.3	2.29		
Juneau	71	26	47.5	4.01		Texas	75	55	64.0	3.44	
Killsnoo	66	24	41.9	4.40		Winslow	75	55	64.0	3.44	
<b>Arizona.</b>						<b>California.</b>					
Ariz. Canal Co. Dam.	101	49	74.4	0.12		Alcalde *	97	53	72.5	0.00	
Bisbee	84	41	65.2	0.72		Alcatraz Island	70	45	62.8	1.45	
Buckeye	84	41	65.2	0.10		Almaden*	86	53	66.8	0.41	
Calabasas	90	40	67.4	0.54		Anaheim*	83	54	66.6	0.10	
Casa Grande*	100	51	77.8	0.00		Anderson	94	49	72.3	2.02	
Chino*	98	44	68.5	1.00		Angel Island	75	43	56.4	1.32	
Chiricahua Mt.	100	51	77.8	0.00		Antioch*	80	55	66.7	0.00	
Chloride	80	27	54.1	0.50		Aptos*	70	46	57.9	0.20	
Coalinga	80	27	54.1	0.83		Aracata	93	51	68.4	0.75	
Coalinga Summit *	85	50	73.1	1.06		Athlone*	93	51	68.4	0.88	
Dos Cabezas f.	85	50	73.1	1.15		Auburn	93	47	61.2	0.88	
Dundeville	85	50	73.1	0.99		Bakersfield*	94	57	73.6	0.22	
Eagle Pass	85	50	73.1	0.75		Ballast Point L. H.	94	57	73.6	0.60	
Farley's Camp	85	50	73.1	0.37		Barstow	93	48	66.4	T	
Florence	101	48	73.8	0.95		Belmont*	93	48	66.4	0.00	
Fort Apache	83	28	55.2	1.38		Benicia Barracks	95	47	59.0	0.67	
Fort Bowie	84	50	66.7	1.38		Berendo*	96	55	60.9	0.00	
Fort Grant	84	42	65.3	1.40		Berkeley	78	47	55.6	1.61	
Fort Huachuca	83	39	64.1	1.24		Bishop Creek	95	38	67.2	2.90	
Fort Mohave	102	54	76.2	0.20		Borden*	96	55	69.7	0.00	
Gila Bend (1) *	96	68	79.6	0.04		Boulder Creek	98	40	59.5	2.40	
Gila Bend (2) *	103	70	83.7	0.04		Brentwood	87	51	63.8	0.15	
Grand Central Mill	85	35	60.4	0.52		Brighton*	82	50	66.8	0.53	
Holbrook †	85	35	60.4	0.52		Byron*	86	50	69.0	0.38	
Maricopa (1) *	107	67	80.9	0.00		Caliente	82	52	67.1	0.00	
Mount Huachuca	88	42	66.0	0.93		Calistoga*	84	46	60.8	1.79	
Natural Bridge	88	42	66.0	1.08		Castroville*	80	53	61.8	0.28	
Oro	88	42	66.0	1.60		Centerville *	93	50	64.1	1.10	
Pantano *	95	54	74.2	0.43		Chico*	98	53	67.9	2.00	
Payson	95	54	74.2	0.49		Cisco*	95	27	43.6	2.25	
Red Rock	95	54	74.2	0.35		Colfax*	62	49	62.9	1.70	
Saint Johns	95	54	74.2	0.23		Colton *	88	48	63.3	0.90	
San Carlos	101	43	71.5	0.77		Corning	82	48	68.4	1.15	
San Simon	94	50	70.8	1.00		Crescent City	92	48	68.4	5.47	
Show Low †	97	51	73.1	0.25		Davisville*	98	55	72.0	0.70	
Signal †	97	51	73.1	2.10		Delano *	98	55	69.8	0.05	
Simmons	97	51	73.1	1.05		Delta *	90	53	67.9	4.70	
Springerville	97	51	73.1	1.00		Downey *	82	58	66.6	0.14	
Strawberry	97	51	73.1	1.00		Dunnigan	86	48	66.1	1.75	
				1.00		East Brother L. H.	91	51	63.3	1.01	
				1.00		El Dorado *	91	51	63.3	0.93	

### Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.)			Precip'n.	Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean			Max.	Min.	Mean	
<b>California—Cont'd.</b>					<b>California—Cont'd.</b>				
Elmira.....	95	0	0	<i>Ins.</i>	San José*.....	0	0	0	<i>Ins.</i>
El Verano*.....	80	50	67.4	0.50	San Luis L. H.....	87	50	60.0	0.26
Emigrant Gap*.....	74	36	51.1	1.28	San Mateo*.....	75	30	52.5	0.35
Esparto*.....	91	54	71.5	0.70	San Miguel*.....	85	50	61.8	0.00
Evergreen.....	81	42	61.1	0.54	San Pedro*.....	86	55	68.5	0.00
Farmington*.....	102	54	67.1	0.55	Santa Ana*.....	88	55	65.3	0.00
Farrallon L. H.....	85	41	59.5	0.40	Santa Barbara (1).....	74	46	59.0	0.30
Felton*.....	81	42	63.4	0.73	Santa Barbara (2)*.....	75	55	63.1	0.00
Fernando*.....	81	42	63.4	0.18	Santa Barbara L. H.....	75	55	63.1	0.31
Florence*.....	74	54	63.8	0.95	Santa Clara.....	70	48	57.8	0.83
Folsom*.....	93	53	68.8	1.58	Santa Cruz (1)*.....	70	48	57.8	0.60
Fort Bidwell.....	79	24	53.2	1.57	Santa Cruz (2)*.....	73	42	57.8	0.70
Fort Gaston.....	90	36	66.0	3.10	Santa Cruz L. H.....	78	41	54.5	0.30
Fort Mason.....	70	44	55.7	1.27	Santa Margarita*.....	78	41	54.5	0.30
Fresno.....	98	53	71.6	0.33	Santa Maria.....	78	41	57.4	0.43
Fruto*.....	90	53	70.3	1.22	Santa Monica*.....	74	56	66.2	0.20
Galt.....	94	54	70.5	0.49	Santa Paula*.....	82	55	66.5	0.23
Georgetown*.....	83	38	58.4	2.71	Santa Rosa.....	80	42	60.8	1.23
Gilroy*.....	89	50	60.1	0.91	Selma.....	94	49	65.7	0.00
Girard*.....	84	40	61.1	0.04	Seven Palms*.....	103	68	79.3	0.00
Goshen*.....	93	52	68.0	0.00	Shingle Springs*.....	80	50	64.3	1.60
Grass Valley.....	73	50	59.9	2.06	Sims*.....	88	39	62.6	4.36
Haywards*.....	73	50	59.9	0.55	Soledad*.....	82	50	59.0	0.08
Hollister*.....	90	47	62.2	0.05	Sonoma.....	71	52	57.6	1.42
Hornbrook*.....	85	45	64.1	2.40	Soquel*.....	80	45	62.9	1.00
Humboldt L. H.....	77	40	55.2	1.51	South Vallejo*.....	70	50	58.5	1.00
Hydesville.....	77	40	55.2	2.19	Spadra*.....	78	50	62.0	0.84
Indio.....	103	60	76.9	0.00	Steele*.....	77	43	58.0	0.15
Ione.....	91	54	65.7	0.20	Stockton (2).....	88	52	65.4	0.30
Iowa Hill*.....	85	46	61.4	2.03	Summit*.....	59	34	45.0	1.10
Jolon.....	97	31	54.6	0.02	Suisun City*.....	93	52	61.7	2.41
Julian†.....	85	31	54.6	3.00	Susanville.....	78	44	59.4	0.70
Keeler.....	90	55	74.5	0.37	Tehachapi*.....	86	38	60.3	1.90
Keene*.....	85	44	61.9	1.35	Tehama.....	92	55	72.8	0.70
Kingsburgh*.....	90	55	70.1	0.00	Templeton*.....	86	50	59.9	2.80
King City*.....	88	42	55.3	0.00	Towles*.....	80	40	59.6	0.30
Knight's Landing.....	84	55	66.8	0.00	Tracy*.....	90	57	70.5	0.50
Lathrop*.....	90	43	69.3	0.10	Traver.....	93	54	68.8	2.40
Laurel*.....	88	45	59.2	0.95	Trinidad L. H.....	74	34	49.6	2.90
Lemoore*.....	95	55	71.5	0.00	Truckee (1).....	98	57	71.7	0.00
Lime Point L. H.....	90	48	58.8	1.75	Tulare*.....	94	55	68.5	0.00
Livermore.....	90	48	58.8	1.75	Turlock*.....	92	40	58.1	0.90
Livingston*.....	93	53	69.1	0.00	Upper Mattole.....	92	40	58.1	0.90
Long Beach*.....	75	50	61.2	0.00	Vacaville (1)*.....	92	53	63.7	0.70
Los Angeles*.....	85	53	66.1	0.27	Vacaville (2)*.....	101	50	68.0	0.30
Los Banos*.....	86	48	67.3	0.00	Valley Springs*.....	87	50	60.4	0.70
Los Gatos (1)*.....	88	49	61.5	0.50	Vina*.....	92	53	69.3	0.80
Los Gatos (2)*.....	86	42	59.0	0.32	Volcano Springs*.....	110	59	80.5	0.00
Mammoth Tank.....	105	60	81.2	0.00	Volta*.....	79	55	65.6	0.00
Mare Island L. H.....	77	40	55.2	1.07	Walla Walla Ck.....	96	32	56.6	3.20
Martinez*.....	78	50	58.6	0.54	Walnut Creek.....	90	45	61.4	0.20
Marysville*.....	90	50	69.8	0.67	Westley*.....	92	56	75.0	0.10
Menlo Park*.....	88	50	61.1	0.38	Whetland.....	92	46	63.8	2.10
Modesto*.....	96	53	71.4	0.24	Whittier.....	82	55	67.2	0.30
Mohave*.....	94	50	72.3	0.00	Willow (1).....	91	45	65.0	2.70
Monson*.....	90	55	72.4	0.16	Willow (2)*.....	97	32	60.8	1.90
Montague*.....	90	49	62.5	1.74	Winters*.....	97	57	72.0	0.70
Monterey*.....	66	46	56.4	0.09	Woodland.....	84	47	67.5	0.40
Monterey (Hotel del Monte).....	76	50	60.1	0.00	Yerba Buena L. H.....	85	30	56.8	1.40
Napa City*.....	80	48	60.3	1.37	<b>Colorado.</b>				
National City.....	73	51	60.0	0.83	Abbott†.....	88	40	59.2	4.70
Newark*.....	83	50	60.5	0.66	Agate†.....	90	33	58.5	3.90
Newhall*.....	88	45	61.1	0.13	Akron†.....	61	2	38.3	2.70
Newman*.....	93	60	74.9	0.10	Alma*.....	78	31	55.0	3.40
Niles*.....	84	43	65.3	0.70	Amherst†.....	68	38	54.2	2.80
Norwalk*.....	85	52	65.5	0.26	Aroya.....	83	24	52.5	1.30
Oakland (1).....	75	45	58.3	1.60	Aspen.....	88	35	50.4	2.10
Oakland (2)*.....	74	48	58.0	1.42	Beaver Creek†.....	88	35	50.4	3.40
Ogilby.....	106	60	81.6	0.00	Benet*.....	74	1	35.8	2.50
Ontario.....	87	50	67.3	0.35	Box Elder†.....	79	10	47.3	3.00
Orland*.....	90	53	71.1	1.12	Brandon.....	89	39	59.2	1.50
Oroville.....	98	53	65.7	1.30	Breckenridge†.....	85	36	62.2	1.50
Pajaro*.....	69	45	58.3	0.25	Brush.....	83	32	43.0	3.00
Palermo†.....	93	46	66.3	1.27	Burlington†.....	84	30	56.4	3.00
Paso Robles*.....	86	48	59.6	0.79	Byers*.....	92	40	58.7	3.00
Pigeon Point L. H.....	88	50	64.1	1.23	Canon City†.....	85	36	62.2	1.50
Placerville (1)*.....	82	39	57.4	1.91	Carlson†.....	83	32	43.0	3.00
Placerville (2)*.....	82	39	57.4	1.91	Castle Rock*.....	92	40	58.7	3.00
Pleasanton.....	89	48	62.6	0.04	Cheyenne Wells.....	86	27	49.6	3.20
Pt. Ano Nuevo L. H.....	78	42	64.6	0.65	Chromo.....	56	25	35.6	2.50
Point Bonita L. H.....	96	55	72.6	0.29	Climax*†.....	61	21	36.6	3.40
Point Montara L. H.....	74	40	55.4	1.56	Como (near).....	88	35	58.0	4.70
Point Pinos L. H.....	79	55	63.9	0.25	Crook.....	62	21	41.0	3.90
Point Sur L. H.....	88	47	58.6	0.00	Cumbres.....	76	30	52.0	0.70
Pomona*.....	94	48	66.0	1.23	Del Norte.....	82	36	50.7	2.00
Porterville*.....	95	50	71.9	3.17	Deer Trail*.....	85	33	59.2	1.30
Presidio of San F.....	89	41	60.0	0.53	Delta†.....	85	33	59.2	1.30
Puente*.....	98	53	70.1	1.58	Dillon†.....	82	36	54.7	2.00
Ravenna*.....	94	48	66.0	1.23	Dumont†.....	82	31	53.9	3.00
Red Bluff.....	95	50	71.9	3.17	East Dale†.....	86	32	58.4	0.50
Redding*.....	89	41	60.0	0.53	First View*.....	74	31	50.4	2.80
Riverside.....	98	53	70.1	1.58	Fort Lewis.....	90	35	62.4	1.50
Rocklin*.....	94	50	70.7	1.25	Fort Logan.....	72	28	49.0	2.70
Rumsey*.....	86	43	59.6	0.60	Fruta†.....	87	32	55.8	2.60
Sacramento (1).....	90	54	66.0	0.34	Garnett.....	82	36	54.7	2.00
Sacramento (2)*.....	85	50	65.8	0.48	Georgetown.....	82	31	53.9	3.00
Sacramento (3).....	70d	48f	56.6d	0.38	Granada.....	87	32	55.8	2.60
Salinas (1)*.....	76	45	57.9	0.40	Greenhorn†.....	82	36	54.7	2.00
Salinas (2)*.....	105	65	78.7	0.00	Haxtum†.....	81	31	53.9	3.00
Salton.....	100	50	75.4	0.00	Hugo*.....	82	36	54.7	2.00
Sanger Junction*.....	104	45	63.8	0.03	Husted†.....	81	31	53.9	3.00
San Ardo*.....	83	48	62.3	0.88					
San Diego B'ks.....	83	53	63.4	0.35					
San Gabriel*.....	83	53	63.4	0.35					